

REMARKS

Favorable reconsideration and withdrawal of the objections and rejections set forth in the above-mentioned Official Action in view of the foregoing amendments and the following remarks are respectfully requested.

Title

The title has been objected to as not being descriptive. In response, a new title, which is even more clearly indicative of the claimed invention, is presented for the Examiner's consideration and approval.

Drawings

The drawings are objected to under 35 C.F.R. § 1.83(a) for the reasons set forth in the Official Action. Specifically, the Examiner objects to the drawings on the basis that the intermediate transfer member recited in original Claim 5 is not illustrated. Claim 5 has been canceled. Accordingly, it is respectfully submitted that this objection is now moot.

Specification and Abstract of the Disclosure

The specification and the Abstract of the Disclosure have been amended to address informalities and/or to improve their form. It is respectfully submitted that no new matter has been added.

Claim Status

Claims 1, 3, 4, and 7 through 9 remain pending in the application. Claims 2 and 5 have been canceled. Claims 1, 3, 4, and 7 through 9 have been amended to even more succinctly define the invention and/or to improve their form. Again, it is respectfully

submitted that no new matter has been added. Claims 1 and 9 are the only independent claims present in the application.

Section 112 Rejection

Claims 1 through 9 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for the reasons set forth in the Official. In response, Claim 2 has been canceled and Claims 1 and 3 have been amended *inter alia* to overcome this rejection. It is respectfully submitted that the claims are in full compliance with Section 112, and that the rejection has been overcome.

Section 103 Rejections

Claims 1 through 4 and 6 through 9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,038,418 (Chigono, et al. '418) in view of U.S. Patent No. 5,915,150 (Kukimoto, et al.), U.S. Patent No. 5,381,215 (Haneda, et al.), U.S. Patent No. 6,054,244 (Kato, et al.), and Van Nostrand's Scientific Encyclopedia.

Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Chigono, et al. '418 in view of Kukimoto, et al., Haneda, et al., Kato, et al., and Van Nostrand's Scientific Encyclopedia as applied to Claim 5 and further in view of U.S. Patent No. 5,659,852 (Chigono, et al. '852). The rationale underlying the foregoing rejections is succinctly set forth in the Official Action.

Traversal of Section 103 Rejections

The Section 103 rejections are respectfully traversed.

Amended Claim 1 calls for an image-forming apparatus that includes a charging object member. A charging assembly, which is in contact with the charging object member to electrostatically charge the charging object member. An exposure

assembly, which forms an electrostatic latent image on the charging object member by exposure. A non-contact developing assembly for use with a magnetic one-component developer, which develops the electrostatic latent image with the magnetic one-component developer to form a magnetic-toner image and collects magnetic toner remaining on the charging object member. A transfer charging assembly, which transfers to a recording medium the magnetic-toner image formed on the charging object member. The charging assembly includes a charging member constituted of an elastic body having the shape of a roller and having a porous material formed on at least on a surface thereof. The surface of said charging member is movable with a velocity differential in an opposite direction with respect to a moving direction of the surface of said charging object member. The velocity differential is in a range from -101 % to -400 %. The charging member has a surface roughness Ra in a range of 1 μm to 500 μm . The charging object member has a surface with a contact angle to water in a range of 86° to 103°. The magnetic one-component developer includes 100 parts by weight of a magnetic toner having at least a binder resin and a magnetic material and 0.01~20 parts by weight of conductive particles. Conductive particles are present at least at contact surfaces between said charging member and the charging object member. The magnetic one-component developer has an average circularity of 0.950 or more as determined from the following equations:

$$\text{Circularity (Ci)} = \frac{\text{Circumferential length of a circle with the same area as projected particle image}}{\text{Circumferential length of projected particle image}} \text{ and}$$

$$\text{Average circularity } (\bar{C}) = \frac{\sum_{i=1}^m C_i}{m},$$

where m represents the number of all particles measured to define the average circularity (\overline{Ci}), and

wherein no cleaning unit is present between a downstream side of the transfer charging assembly and an upstream side of the charging assembly.

Amended independent Claim 9 is a method claim formulated on the basis of amended Claim 1.

The image-forming apparatus of the present invention does not utilize a cleaning member, such as a cleaning blade, which is avoided by use of a charging member of specific surface roughness and a charging object member. The charging object member and the charging member rotate at a velocity difference at contact surfaces formed therebetween. The contact surface and a developer having specific physical characteristics. See page 17, lines 10 through 20; page 34, lines 5 through 12; page 39, lines 11 and 12; and Figure 1.) By avoiding the need for the cleaning member, the claimed apparatus can be made to more compact. Further, conductive particles externally added to magnetic toner particles are smoothly fed to a charging assembly so as to charge a charging object member. (See page 26, lines 14 through 18 of the specification).

The primary citation, Chigono, et al. '418, relates to a charging method and a charging device including a flexible charging member to be charged by a charging a member. In Chigono, et al. '418, charge promotion particles m are fed to a charging roller 2 from a charge promotion particle supplying means 3.

The Examiner recognizes that Chigono, et al. '418 does not disclose the specific amount of the velocity differential, the roughness of the charging member, the contact angle with water of the charging object member, and the value of the average

circularity of the developer as recited in the claims. Accordingly, the Examiner relies on Kukimoto, et al., Haneda, et al., Kato, et al., Van Nostrand's Scientific Encyclopedia, and Chigono, et al. '852 for showing features not found in Chigono, et al. '418.

Kukimoto, et al. relates to an image forming method utilizing toner having inorganic particles and particles of a specific sphericity in an apparatus including a charging roller 117 and a photosensitive member 100. Kukimoto, et al., does not either disclose or suggest a charging apparatus or method, wherein conductive particles intervene between the charging roller 117 and the photosensitive member 100.

Haneda, et al. relates to an image forming apparatus having a charger to charge an image carrier with a magnetic brush. More specifically, Haneda, et al. discloses a charging method wherein a magnetic brush 21A, which is formed of magnetic particles 21, contacts a photoreceptor layer 10. See column 10, lines 27 through 62. Accordingly, Haneda, et al. does not disclose or suggest a charging member as recited in the independent claims.

Kato, et al. relates to a process for producing toner. In Kato, et al., does not mention a charging apparatus and related method as recited in the independent claims.

Van Nostrand's Scientific Encyclopedia is merely cited for defining "an ordinary average of "n measurements of some physical quantity." Van Nostrand's Scientific Encyclopedia does not disclose or suggest either an apparatus or a charging method as recited in the independent claims.

Chigono, et al. '852, like Haneda, et al. discloses a charging method using a magnetic brush charging assembly 2. As above-noted with respect to Haneda, et al., such

an arrangement is different from the charging apparatus and method according to the claimed invention.

It is respectfully submitted that the above-noted deficiencies of Chigono, et al. '418 are not remedied by the teachings of Kukimoto, et al., Haneda, et al., Kato, et al., Van Nostrand's Scientific Encyclopedia, and Chigono, et al. '452.

It is also respectfully submitted that the combination rejections, which rely on five or more references, is not well founded. The Examiner has provided a *rationalization* for combining the teachings of the cited art based on the benefits of doing so. However, a combination rejection is proper only when there is some suggestion or motivation in the cited art *per se* to cause one having ordinary skill in the art to combine the teachings of the cited art. There is nothing in the cited art which supports the position that it can be combined in the manner suggested. Even if the art could be so combined, the mere fact that the art can be combined is not sufficient if there is no suggestions in the art that such a combination is desirable. For example, see ACS Hospital Systems, Inc. v. Montefiore Hospital, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984).

If the Examiner repeats the rejections, she is kindly requested to identify where support can be found in each of the references for modifying the teachings of one with the others.

In view of the foregoing, it is respectfully submitted that independent Claims 1 and 9 are allowable over the cited art whether taken individually or in combination.

Claims 3, 4, and 6 through 8 depend directly from Claim 1 and are allowable by virtue of their dependency and in their own right for further defining

Applicants' invention. Individual consideration of the dependent claims is respectfully requested.

Closing Comments

It is respectfully submitted that the pending claims are allowable over the art of record and that the application is in condition for allowance.

Favorable reconsideration and early passage to issue of the present application are earnestly solicited.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our New York office at the address shown below.

Respectfully submitted,



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